

IN THE CLAIMS

Cancel claims 2 and 25, without prejudice. Rewrite claim 1, 3, 4, 7, 9, 10, 11, 12, 13, 16, 17, 18, 19, 20, and 23 as follows:

## CLAIMS

1. (Amended) A magnetron comprising: an anode having resonant cavities and coaxially arranged with a cathode about a longitudinal axis; output means including a coaxial line configured to receive energy in one oscillator mode and transmit it as a coaxial transmission mode and to receive energy in another oscillator mode and transmit it as a cylindrical waveguide mode; and means for at least reducing transmission of energy along the coaxial line in the cylindrical waveguide mode wherein the coaxial line is arranged to receive energy coupled in an axial direction substantially parallel to the longitudinal axis from the resonant cavities.
3. (Twice Amended) A magnetron as claimed in claim 1 wherein the coaxial line has at least one axially extensive slot extending through an outer conductor through which energy in the cylindrical waveguide mode is coupled from the coaxial line.
4. (Amended) A magnetron as claimed in claim 3 and including radiation absorbing material located at said at least one slot to absorb energy radiated by said at least one slot.
7. (Twice Amended) A magnetron as claimed in claim 1 wherein the coaxial transmission mode is the TEM mode and the cylindrical waveguide is the  $TE_{11}$  mode.

9. (Amended) A magnetron as claimed in claim 8 wherein the at least one coaxially extensive reflector slit is located partially or wholly in a region between the resonant cavities and the end of the coaxial line nearest the anode.

10. (Twice Amended) A magnetron as claimed in claim 8 wherein the at least one coaxially extensive reflector slit is located in the surface of an outer conductor of the coaxial line.

11. (Twice Amended) A magnetron as claimed in claim 8 wherein the reflector slit is located in an inner conductor of the coaxial line.

12 (Amended) A magnetron as claimed in claim 11 wherein the reflector slit in an inner conductor is extensive therethrough.

13. (Amended) A magnetron as claimed in claim 12 and including the at least one coaxially concave reflector slit and a further reflector slit together comprising two reflector slits in the inner conductor which are extensive therethrough and intersect.

16. (Twice Amended) A magnetron as claimed in claim 14 wherein the coaxial line includes a discontinuity which reduces transmission along the coaxial line of energy reflected from the waveguide back towards the anode in a cylindrical waveguide mode.

17. (Twice Amended) A magnetron as claimed in claim 1 and including a second coaxial line arranged to receive energy in said another oscillator mode coupled in an axial direction from the

end of the anode where a cathode lead is located and transmit the energy as a cylindrical waveguide mode.

18. (Amended) A magnetron as claimed in claim 17 and including at least one axially extensive slot through which energy is coupled from the second coaxial line.

19. (Amended) a magnetron as claimed in claim 18 wherein at least one slot is located in an outer conductor of the second coaxial line.

20. (Amended) a magnetron as claimed in claim 19 and including radiation absorbing material arranged to receive energy coupled from the second coaxial line through said at least one slot.

23. (Twice Amended) A magnetron as claimed in claim 1 wherein the anode has an axial length  $\geq \frac{3}{4}\lambda$  wherein  $\lambda$  is the wavelength.